EVALUATION OF METEOROLOGICAL CONDITIONS FOR OPEN BURNING

Purpose

This Air Quality Group procedure describes the process used to determine if atmospheric conditions are acceptable to perform open burning operations that are permitted and approved by the New Mexico Environmental Department's Air Pollution Control Bureau.

Scope

This procedure applies to the group performing any operational open burning at LANL. It may be used for prescribed burns at the discretion of the LANL operating group.

In this procedure

This procedure addresses the following major topics:

Hazard Control Plan

The hazard evaluation associated with this work is documented in HCP-ESH-17-Office Work.

Signatures

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General information about this procedure

Attachments

This procedure has no attachments.

History of revision

This table lists the revision history and effective dates of this procedure.

Revision	Date	Description of Changes
0	3/7/96	New document.
1	11/1/00	Process and management changes.
2	12/10/01	Process changes

Who requires training to this procedure?

The following personnel require training before implementing this procedure:

- LANL personnel assigned to assess meteorological conditions prior to open burning.

Training method

The training method for this procedure is "**self-study**" (reading) and is documented in accordance with the procedure for training (ESH-17-024).

Prerequisite

Access to LANL Weather Machine (Internet connection).

General information, continued

Definitions specific to this procedure

Operational open burning: Burning performed in support of a Laboratory program. Prescribed burns for wild fire mitigation are not operational burns.

Atmospheric stability: Stability is classified as A, B, C, D, E, or F. Atmospheric stability controls the rate of growth of the plume. When conditions are unstable (A, B, or C) mixing is quite rapid and concentrations fall off quickly with distance from the source. When conditions are categorized as neutral (D) or stable (E or F), the decrease in concentration with distance is slower.

References

The following documents are referenced in this procedure:

- ESH-17-024, "Personnel Training"

Note

Actions specified within this procedure, unless preceded with "should" or "may," are to be considered mandatory guidance (i.e., "shall").

Obtaining and evaluating data

Background

In order to assure proper dispersion of the smoke generated by open burning, meteorological conditions must be within acceptable limits. LANL personnel must evaluate meteorological conditions before performing or allowing open burns.

Determine stability conditions

The **group responsible for the burn** performs the steps below to determine the stability conditions for the burn. If necessary (e.g., computer network connections not available), the group may contact ESH-17 Air Quality for this information.

Obtaining and evaluating data

To obtain and evaluate meteorological data, perform the following steps:

Step	Action
1	On the morning of the scheduled burn, log onto the LANL Weather Machine at address http://weather.lanl.gov.
2	Under "Current and Recent Conditions around Los Alamos," select "Detailed Tabular Summary, Short Form."
3	Find the "PG Stability category EPA based on Sigma Phi" at the meteorology tower nearest to the burn site. **If the stability is...** — **Then...** A, B, or C — It is OK to burn. D — It is OK to burn no earlier than one hour after sunrise. E or F — Do not perform the burn.
4	If OK to burn according to the above step, print out the short form and mail to ESH-17 records coordinator Attn: Open burning file MS J978

Acceptable burn periods

Background

Because smoke will disperse best during daylight hours, most burn permits specify acceptable ignition times (after sunrise) and burn end times (before sunset). In the event the burn permit does not specify these acceptable times, this chapter can be used to evaluate field conditions and make a determination as to acceptable start and end times for burns.

Determines acceptable burn period

The **group responsible for the burn** performs the steps below to determine the acceptable burn period for the burn. If necessary (e.g., copy of permit not available), the group may contact ESH-17 Air Quality for support and guidance.

Determining acceptable start and end times

To establish the appropriate start and end times for a burn, follow the following the steps.

Step	Action
1	Obtain a copy of the burn permit under which operations are being conducted. **If the permit ...** — **Then...** Identifies acceptable start/end times — Follow permit requirements. Does not provide times — Continue to step 2.
2	Visibly evaluate the cloud cover. **If the sky condition is...** — **Then...** Clear to partly cloudy — It is acceptable to burn from one hour after sunrise to one hour before sunset. Low overcast — It is acceptable to burn from two hours after sunrise to two hours before sunset.
3	Document the visual check (e.g., e-mail or memo) and send the documentation to ESH-17 (MS J978 or harold@LANL.gov).

Records resulting from this procedure

Records

The following records generated as a result of this procedure are to be submitted as records to the records coordinator:

- documentation of visual check of sky condition (e.g., e-mail or memo)
- print out of “short form” of stability category